

**SECRET**

25X1

PAR 214

30 Nov 64

SUBJECT: Roller Transport Reversal Processor (12 Inch)

#### TASK/PROBLEM

1. Design and fabricate a versatile, self-threading photographic processor capable of handling both cut sheets and continuous webs of photographic material and adaptable to a process yielding either standard negative or reversal images. Interchange between processes to be accomplished with a minimum of effort.

#### DISCUSSION

2. During this reporting period (1 Sept through 30 Nov) all sub-assemblies and detail drawings on the processing machine and dryer were completed and released for fabrication. A design study of the recirculating systems and the attendant piping was completed. As a result of this study, pumps, heat exchangers, filters, flow-meters and other required hardware were prelisted and ordered.

3. Design effort is continuing on the pumping system, the control panel and all associated piping.

4. Preliminary installation engineering data sheets were completed and submitted.

5. A revised specification for the processing machine was written following the Progress Review Meeting held at the contractor's facility on 19 and 20 November 1964. A copy of the revised specification is being submitted as an appendix to this report.

#### PLANNED ACTIVITY

6. Continue design effort as planned.

7. Visit customer's facility to inspect installation site and to coordinate design effort with customer's requirements.

Note: See Specification 203B attached.

Declass Review by NGA.

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**GROUP 1**  
**Excluded from automatic downgrading and declassification**

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Specification No. 203B  
30 Nov 64

SPECIFICATION  
FOR  
REVERSAL ROLLER TRANSPORT PROCESSOR (12-INCH)

TASK/PROBLEM

1. Design and fabricate a versatile, self-threading photographic processor capable of handling both cut sheets and continuous webs of photographic material and adaptable to a process yielding either standard negative or reversal images. Interchange between processes to be accomplished with a minimum of effort.

PROCESSING METHOD

2. Roller transport conveyance through deep tanks. Agitation accomplished by action of the conveying rollers.

MATERIAL CAPABILITIES

3. Film Size:

a. Cut Sheet:

- (1) Minimum 4 x 5 inches.
- (2) Maximum 11 x 14 inches.

NOTE: Cut sheet films must be packaged and shipped in cut sheet form, not cut from roll stock.

b. Continuous Strip:

- (1) Minimum 70mm x 1,000 feet.
- (2) Maximum 9.5 inches x 1,000 feet.

4. Material: Certain types of black-and-white aerial and commercial films.

NOTE: It should be recognized that with roller transport equipment, some of the thin base materials may require a pilot tab at the leading edge in order to be self-threading.

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## OUTPUT RATES

5. Process Time (Approximately):

## a. Reversal Process - Film similar to:

- |                    |                      |
|--------------------|----------------------|
| (1) Film Type 8430 | 6.4 ft/min. at 75°F  |
| (2) Film Type 4400 | 6.85 ft/min. at 70°F |
| (3) Film Type 4404 | 5.33 ft/min.         |

## b. Negative Process - Film similar to:

- |                    |                      |
|--------------------|----------------------|
| (1) Film Type 4404 | 26 ft/min. at 85°F   |
| (2) Film Type 8402 | 16 ft/min. at 85°F   |
| (3) Film Type 8430 | 20.4 ft/min. at 75°F |

## PROCESS TIME

6. Dry to Dry (Approximately):

## a. Reversal Process

- |                    |            |
|--------------------|------------|
| (1) Film Type 4400 | 9 minutes  |
| (2) Film Type 8430 | 11 minutes |
| (3) Film Type 4404 | 14 minutes |

## b. Negative Process

- |                    |           |
|--------------------|-----------|
| (1) Film Type 4404 | 3 minutes |
| (2) Film Type 8430 | 4 minutes |
| (3) Film Type 8402 | 5 minutes |

## PRODUCT QUALITY

7. Negative: Good commercial quality (approximately five years).
8. Reversal: No experience (probably 5 years).
9. Process temperature capability 70°F to 100°F. Operating range for above films 70°F to 85°F.
10. Reversal Capability: Equipment to be capable of reversing image of both exposures by both chemical fogging and/or white light flashing.

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11. Operation: Daylight operating for all continuous strip material up to capacity of A-9 magazine. Darkroom feed for all cut sheet material.

PHYSICAL DIMENSIONS

12. Over-all Dimensions:

- a. Length 15 feet, 9 inches.
- b. Width 5 feet.
- c. Height 5 feet, 6 inches.
- d. Weight 7,000 pounds, installed, empty.

SERVICE REQUIREMENTS

13. Service Requirements:

- a. Electrical: 220/208 volts, 50 amperes, 60 cps, AC, 3-phase
- b. Water: Hot  $130^{\circ} \pm 10^{\circ}\text{F}$ ; Chilled:  $50^{\circ} \pm 5^{\circ}\text{F}$ , 30 psig minimum.
- c. Air: 25 psig maximum, instrument air.

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